

**REMARKS**

Claims 12-14 are pending. Claims 12-14 have been amended. No new matter has been added.

Claims 13-14 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Claims 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai *et al.* (Biochimica et Biophysica Acta, Vol. 1517, Pages 449-454, 2001) (hereinafter “Lai”) in view of Benson *et al.* (Nucleic Acids Research, Vol. 21, Pages 2963-2965, 1993) (hereinafter “Benson”) and further in view of Neuwald *et al.* (Nucleic Acids Research, 1997, 25(9), 1665-1677) (hereinafter “Neuwald”).

**Rejection of Claims 13 and 14 under 35 U.S.C. § 101**

Claims 13 and 14 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. More specifically, the Examiner asserts that there is no specific hardware associated with the “modules” recited in claim 13. Accordingly, claim 13 has been amended to recite the use of computer hardware. Claim 14 is rejected because of the recitation of a “computer program.” Accordingly, claim 14 has been amended to recite a computer-implemented method. Therefore, it is respectfully requested that the rejection of claims 13 and 14 be withdrawn.

**Rejection of Claims 12-14 under 35 U.S.C. § 103(a)**

Claims 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai in view of Benson and further in view of Neuwald. This rejection is respectfully traversed.

Lai, Benson, and Neuwald, alone or in combination, fail to teach “removing the sequences from the selected genomic database that are not unique until only evaluated sequences that are unique remain,” as similarly recited in amended claims 12-14. As previously discussed, the claimed invention searches for unique sequences and parses the unique sequences to remove the non-unique sequences. As a result, the claimed invention builds a database of only unique sequences.

On page 7 of the Office Action, the Examiner recognizes that “Lai et al. and Benson et al. do not show re-evaluating non-unique sequences resulting from the search and removing

sequences that are non-unique from the selected genomic database.” Neuwald fails to cure the deficiencies of Lai and Benson. Neuwald conducts a BLAST search and removes the sequences that lack a trace of similarity and aligns the entire sequences that have a trace of similarity. Page 1666, left column, fourth paragraph - page 1666, right column, second paragraph. Rather than parse it for a unique sequence, Neuwald uses the entire sequence that is identified to have some similarity. *Id.* (“the region delineated by the full query sequence is used, provided that it overlaps with more than half of the region delineated by the subsequence.”). Essentially, Neuwald builds various models of aligned sequences having some similarity. Because Neuwald uses non-unique sequences along with the unique portion of the sequence, Neuwald cannot teach parsing results of the search for a sequence unique to the selected genomic database to build a database of non-unique sequences.

Thus, Lai, Benson, and Neuwald do not teach or suggest each and every element of claims 12-14. Accordingly, it is respectfully requested that the rejection of claims 12-14 under 35 U.S.C. § 103 be withdrawn.

**CONCLUSION**

The undersigned representative respectfully submits that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that the prosecution might be advanced by discussing the application with the undersigned representative, in person or over the telephone, we welcome the opportunity to do so. In addition, if any additional fees are required in connection with the filing of this response, the Commissioner is hereby authorized to charge the same to Deposit Account No. 50-4402.

Respectfully submitted,

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